

IN THE CLAIMS:

1. (Currently amended) A medical electrical lead, comprising:

a lead body including a first portion and a second portion, the first portion including a first lumen and a second lumen extending lengthwise therein and the second portion including a first lumen and a second lumen extending lengthwise therein;

a sensor capsule;

an adaptor coupled to the lead body and holding the sensor capsule in between the first portion of the lead body and the second portion of the lead body, the adaptor comprising:

a proximal end adjacent a first end of the sensor capsule,

a distal end adjacent a second end of the sensor capsule,

a middle portion extending alongside the sensor capsule, and

an a first open-sided channel extending from the first lumen of the first portion of the lead body to the first lumen of the second portion of the lead body through the proximal end, the middle portion and the distal portion of the adaptor;~~and~~

a second open-sided channel extending along the middle portion of the adaptor;

a proximal lumen within the proximal end of the adaptor including a proximal opening communicating with the second lumen of the first portion of the lead body and extending from the proximal opening to the second open-sided channel; and

a distal lumen within the distal end of the adaptor including a distal opening communicating with the second lumen of the second portion of the lead body and extending from the second open-sided channel to the distal opening;

a first conductor extending within the first lumen of the first portion of the lead body, the first open-sided channel of the adaptor and the first lumen of the second portion of the lead body; and

a second conductor extending within the second lumen of the first portion of the lead body, the proximal lumen of the adaptor, the second open-sided channel of the adaptor, the distal lumen of the adaptor and the second lumen of the second portion of the lead body.

2. (Original) The lead of claim 1, wherein the first conductor comprises an electrically conductive coiled wire.
3. (Original) The lead of claim 2, wherein the coiled wire includes a lumen sized to accommodate a lead delivery wire.
4. (Original) The lead of claim 1, wherein the first conductor comprises a cabled bundle of electrically conductive wires.
5. (Original) The lead of claim 1, wherein the first conductor comprises an electrically conductive wire and further comprising a low voltage electrode coupled to the conductor along the second portion of the lead body.
6. (Original) The lead body of claim 1, wherein the first conductor comprises an electrically conductive wire and further comprising a high voltage electrode coupled to the conductor along the second portion of the lead body.
7. (Original) The lead of claim 1, wherein the first conductor comprises a fluid infusion tube.
8. Canceled
9. (Currently amended) The lead of claim ~~8~~ 1, wherein:
the first portion of the lead body further includes a third lumen;

the second portion of the lead body further includes a third lumen;
the proximal opening of the proximal lumen of the adaptor further communicates with the third lumen of the first portion of the lead body; and
the distal opening of the distal lumen of the adaptor further communicates with the third lumen of the second portion of the lead body.

10. (Original) The lead of claim 9, wherein the proximal lumen of the adaptor tapers from the proximal opening toward the second open-sided channel.

11. (Original) The lead of claim 9, wherein the distal lumen of the adaptor tapers from the distal opening toward the second open-sided channel.

12. (Currently amended) The lead of claim ~~8~~ 1, wherein the proximal lumen of the adaptor includes a ramped transition to the second open-sided channel.

13. (Currently amended) The lead of claim ~~8~~ 1, wherein the distal lumen of the adaptor includes a ramped transition to the second open-sided channel.

14. (Currently amended) The lead of claim ~~8~~ 1, wherein the first conductor and the second conductor each comprise an electrically conductive wire and further comprising:

a first low voltage electrode coupled to the first conductor along the second portion of the lead body; and

a second low voltage electrode coupled to the second conductor along the second portion of the lead body and spaced apart from the first low voltage electrode.

15. (Currently amended) The lead of claim ~~8~~ 1, wherein the first conductor and the second conductor each comprise an electrically conductive wire and further comprising:

a low voltage electrode coupled to the first conductor along the second portion of the lead body; and

a high voltage electrode coupled to the second conductor along the second portion of the lead body and space apart from the low voltage electrode.

16. (Original) The lead of claim 1, wherein the sensor capsule includes a distal projection and the distal end of the adaptor includes a slot interlocking with the distal projection of the sensor capsule.

17. (Original) The lead of claim 1, further comprising an outer tube positioned about the adaptor and extending across a junction between the adaptor and the first portion of the lead body and across a junction between the adaptor and the second portion of the lead body.

18. (Original) The lead of claim 17, wherein:

the sensor capsule includes an oxygen sensor, the oxygen sensor including a window; and

the outer tube includes an opening approximately aligned with the window.

19. (Original) The lead of claim 17, wherein:

the sensor capsule includes a pressure sensor, the pressure sensor including a diaphragm; and

the outer tube includes an opening approximately aligned with the diaphragm.

20. (Original) The lead of claim 1, wherein:

the adaptor further comprises a first part and a second part, the first part including the proximal end and the second part including the distal end; and

the first part and the second part are independently formed and subsequently coupled to form the adaptor.

21. (Currently amended) The lead of claim 1, further comprising:

a sensor bus extending within a ~~second~~ third lumen of the first portion of the lead body to the sensor capsule; and

wherein the adaptor further comprises a second proximal lumen extending through the proximal end of the adaptor through which the sensor bus passes;

the sensor capsule includes a housing, a stud extending from the housing and coupled to a first conductor of the sensor bus and a feedthrough pin extending through the housing and coupled to a second conductor of the sensor bus; and

the stud and the feedthrough pin project from a proximal end of the housing, the feedthrough pin being approximately aligned with the second proximal lumen of the adaptor.

22. (Original) The lead of claim 21, wherein the sensor bus first conductor and the sensor bus second conductor are coaxially arranged.

23. (Original) The lead of claim 21, wherein the stud is radially offset from the feedthrough pin.

24. (Original) The lead of claim 22, wherein:

the stud is radially offset from the feedthrough pin; and

the sensor bus first conductor includes a dog-leg portion to which the stud is coupled.

25. (Currently amended) ~~An~~ A medical electrical lead, comprising:

a lead body first portion including a first lumen, ~~and~~ a second lumen, and a third lumen each extending lengthwise therein;

a lead body second portion including a first lumen and a second lumen extending lengthwise therein;

a sensor capsule;

an adaptor coupled to the lead body first portion and the lead body second portion and holding the sensor capsule in between the lead body first portion the lead body second portion, the adaptor comprising:

a proximal end adjacent a first end of the sensor capsule;

a distal end adjacent a second end of the sensor capsule;

a middle portion extending alongside the sensor capsule;

a first open-sided channel extending through the proximal end, the middle portion and the distal end and including a proximal opening in communication with the first and second lumens of the lead body first portion and a distal opening in communication with the first lumen of the lead body second portion; ~~and~~

a second open-sided channel extending along the middle portion of the adaptor;

a proximal lumen with the proximal end including a proximal opening communicating with the third lumen of the first portion of the lead body and extending from the proximal opening to the second open-sided channel;

a distal lumen within the distal end including a distal opening communicating with the second lumen of the second portion of the lead body and extending from the second open-sided channel to the distal opening;

a first conductor extending within the first lumen of the lead body first portion, the first channel of the adaptor and the first lumen of the lead body second portion; and

a second conductor extending within the third lumen of the first portion of the lead body, the proximal lumen of the adaptor, the second open-sided channel of the adaptor, the distal lumen of the adaptor and the second lumen of the second portion of the lead body.

26. (Currently amended) The lead of claim 25, wherein the first open-sided channel tapers from the proximal opening toward the middle portion.

27. (Currently amended) The lead of claim 25, further comprising a low voltage electrode coupled to one of the first and second conductors ~~the electrical conductor~~ along the second portion of the lead body.

28. (Currently amended) The lead of claim 25, further comprising a high voltage electrode coupled to one of the first and second conductors ~~the electrical conductor~~ along the second portion of the lead body.

29. (Currently amended) ~~An~~ A medical electrical lead, comprising:

a lead body including a first portion and a second portion, the first portion including a first lumen and a second lumen extending lengthwise therein and the second portion including a first lumen and a second lumen extending lengthwise therein;

a sensor capsule including a length; and

an adaptor coupled to the lead body and holding the sensor capsule in between the first portion of the lead body and the second portion of the lead body, the adaptor comprising:

a first part including a proximal end and a proximal lumen, ~~and~~

a second part including a distal end and a distal lumen;

a first open-sided channel extending along the first part, alongside the sensor capsule, and along the second part; and

a second open-sided channel extending alongside the sensor capsule in communication with the proximal lumen and the distal lumen;

wherein the first part and the second part are independently formed and subsequently coupled to accommodate the length of the sensor capsule; and

a first conductor extending within the first lumen of the first portion of the lead body, the first channel of the adaptor, and the first lumen of the second portion of the lead body; and

a second conductor extending within the second lumen of the first portion of the lead body, the proximal lumen of the adaptor first part, the second channel of the adaptor, the distal lumen of the adaptor second part, and the second lumen of the second portion of the lead body.

30. Canceled

31. (Currently amended) A method for assembling a medical electrical lead that includes a lead body first portion, a lead body second portion and a sensor capsule positioned in between the lead body first portion and the lead body second portion, the method comprising the steps of:

coupling a sensor bus to the sensor capsule;

coupling an adaptor to the lead body first portion, the adaptor adapted to hold the sensor capsule; and

placing the sensor bus, which extends from the sensor capsule coupling, within a sensor conductor lumen of the lead body first portion through a proximal end of the adaptor

placing a first portion of a first elongate conductor within a first open-sided channel of the adaptor, the first portion of the first conductor extending from one of the lead body first portion and the lead body second portion and the first channel of the adaptor extending from the proximal end of the adaptor to a distal end of the adaptor;

placing a second portion of the first conductor within a first lumen of another of the lead body first portion and the lead body second portion, the second portion of the first conductor extending from the first portion of the first conductor.

placing a first portion of a second elongate conductor within a second open-sided channel of the adaptor, the second channel extending alongside the sensor capsule in communication with a lumen of the adaptor, the first portion of

the second conductor extending from one of the lead body first portion and the lead body second portion;

placing a second portion of the second conductor within the lumen of the adaptor, the lumen extending from the second channel to the one of the lead body first portion and the lead body second portion, the second portion of the second conductor extending from the first portion of the second conductor; and

placing a third portion of the second conductor within a second lumen of another of the lead body first portion and the lead body second portion, the third portion of the second conductor extending from the second portion of the second conductor.

32. Canceled

33. (Original) The method of claim 31, wherein the adaptor comprises a first part including the proximal end and a second part including a distal end and further comprising the steps of:

mounting the sensor capsule between the proximal end and the distal end of the adaptor after coupling the sensor bus; and

coupling the first part of the adaptor to the second part of the adaptor after mounting the sensor capsule.